REMARKS

The outstanding Office Action addresses and rejects claims 1-62. Applicant respectfully requests reconsideration of the present application in view of the remarks set forth below.

Claim Rejections Pursuant to 35. U.S.C. §103(a)

The Examiner maintains the rejection of claims 1-12 and 18-62 pursuant to 35 U.S.C. §103(a) as being obvious over Paper 22/97E in view of U.S. Patent No. 3,847,626 of Erickson et al. (Erickson), and claims 14-17 pursuant to 35 U.S.C. §103(a) as being obvious over Paper 22/97E in view of U.S. Patent No. 5,156,780 of Kenigsberg et al. While not noted in the pending Office Action, Applicant assumes that the Examiner also maintains the rejection of claim 13 pursuant to 35 U.S.C. §103(a) as being obvious over Paper 22/97E in view of U.S. Patent No. 6,155,432 of Wilson et al.

The Examiner argues that Paper 22/97E discloses both components of Applicant's invention - namely boron-free glass wool fibers and boron-free chopped glass fibers. In particular, the Examiner argues that:

> [a] process of chopping said 'glass wool fibers' will yield 'chopped glass fibers.' Depending on the semantics employed, a portion of the 'chopped glass wool fibers' can be identified as glass wool fibers. Applicant has failed to provide a description identifying the structural differences between 'glass wool fibers' and 'chopped glass fibers' keeping in mind the fact that 'glass wool fibers' can be subjected to a "chopping" process.

(Office Action dated May 6, 2003, pages 3-4.) Applicant respectfully disagrees.

Chopped glass fibers and glass wool fibers are completely different materials, each having different properties. As set forth in Applicants' specification at page 9, lines 24-26, "chopped glass fibers are produced as a continuous filament, which is treated with a sizing agent, e.g., starch, and precision cut to a specified length . . . ." Continuous filament fibers are not the same as glass wool fibers. As set forth and highlighted in the attached document entitled "Manufacturing of Glass Fibers," "[t]here are two broad groups of glass fibre products:

continuous glass fibre which is used for the reinforcement of plastics, rubber and cement; and glass wool, which is used for thermal insulation and which is produced by the Crown process." The document further describes the different manufacturing processes required to make continuous glass filaments and glass wool fibers. As a result of these differences, glass wool fibers and chopped glass fibers have different properties that contribute differently to the compositions in which they are incorporated.

Applicant further notes that the term "glass wool" has a distinct meaning. As defined at www.dictionary.com (copy enclosed), "glass wool" means "[f]ine-spun fibers of glass . . . ," and "glass fibers spun and massed into bundles resembling wool." Chopped glass fibers, on the other hand, are discrete fibers having a relatively large diameter, especially when compared to glass wool. These short fiber segments are not in the form of "bundles resembling wool."

Accordingly, the wool fibers disclosed by Paper 22E/97 cannot merely be chopped to form the claimed chopped glass fiber component of the present invention, as asserted by the Examiner. The terms "glass wool" and "chopped glass" have distinct meanings as used in the filtration industry, and any person having ordinary skill in the art would understand the terms to refer to two distinct types of fiber.

The Examiner further states that "evidence provided by Applicant showing that a paper making machine or process does not require for [stet] fibers to be chopped would help overcome the use of Paper 22/97E as a reference." (Office Action dated May 6, 2003, page 4.)

Accordingly, Applicant submits herewith copies of pages from The Nonwovens Handbook (hereinafter "the Handbook") which describe the wet-laid process. In describing the wet-laid process, the Handbook merely states that "[t]he fibers can be in the form of short lengths called staple or continuous lengths called filament." The described paper making process does not *require* or even suggest that the fibers need to be chopped, as asserted by the Examiner. In fact, virtually any type of fiber can be used in the paper making process. Applicant further refers the Examiner to Figure 4 on page 51 of the Handbook, which illustrates the procedural steps using in the wet laid process. As shown, the process does not include chopping or any other preparation

of fibers - - fiber product is a separate process from paper production. Paper production merely requires the desired fibers to be added to a liquid to form a slurry which is then fed through the machine to form a web.

In sum, this response is believed to address the Examiner's concerns and to overcome the use of Paper 22/97E as a reference. Reconsideration and withdrawal of the pending rejections is therefore respectfully requested.

Applicant further notes that neither Paper 22/97E nor Erickson teach chopped glass fibers ***interspersed*** throughout glass wool fibers, as is required by claim 1 of the present invention. Erickson only teaches one type of fiber, and thus cannot teach fibers that are *interspersed* throughout another type of fiber. Paper 22/97E does disclose different types of fibers, but merely discloses a *composite* that is reinforced using a binder. (Section 1, third paragraph). Paper 22/97E does not suggest ***interspersing*** the chopped glass fibers into the glass wool fibers. Accordingly, independent claim 1, as well as claims 2-62 which depend therefrom, distinguish over Paper 22/97E and Erickson.

Conclusion

In view of the amendments and remarks above, Applicant submits that claims 1-62 are in condition for allowance. Applicant encourages the Examiner to telephone the undersigned in the event that such communication might expedite prosecution of this matter.

Respectfully submitted,

Date: July 28, 2003

Lisa J. Michaud, Reg. No: 44,238
Attorney for Applicant

NUTTER, McCLENNEN & FISH, LLP
World Trade Center West
155 Seaport Blvd.
Boston, MA 02110-2699
Tel: (617) 439-2550
Fax: (617) 310-9550